

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested. Applicant's Attorney has proposed amendments herein to claims 17, 23, 26, and 27. With this amendment, claims 1-27 remain in the case and the total number of claims remain unchanged.

On page 2 of the instant office action, the Examiner has rejected claims 25 and 27 under 35 U.S.C. § 102(b) as being anticipated by Bessinger et al. US 4,884,847 ("Bessinger"). The Examiner has rejected the remaining claims, 1-24 and 26, under 35 U.S.C. § 103(a) as being unpatentable over Bessinger in view of Doerr et al. US 4,773,520 ("Doerr"). The office action states:

Bessinger et al. discloses a method of guiding a miner and a conveyor unit through a mineral seam comprising adjusting movement of said miner by controlling angle between miner and conveyor unit (see abstract, Figures and col.3).

Bessinger et al. discloses the invention substantially as claimed. However, Bessinger et al. is silent about having first and second actuators to adjust the angle between the miner and conveyor unit. Doerr et al. teaches first and second actuators (50, 50a) to adjust the angle between conveyor units. It would have been considered obvious to one of ordinary skill in the art to modify Bessinger et al. to include first and second actuators as taught by Doerr et al. since such a modification allows the conveyor to follow in the direction of the miner.
(emphasis added by Applicant's Attorney by underlining)

Applicant's Attorney notes that, in forming this office action, the searcher apparently misunderstood Applicant's invention as described and claimed, as the office action cites Bessinger and Doerr to state that they teach allowing the conveyor to follow the miner. Applicant's Attorney respectfully submits that is not what Applicant is claiming. Applicant's invention is NOT a system where the conveyor simply follows the miner. Applicant's invention is a system where actuators are used to adjust the directional heading of the miner. With Applicant's system, in changing the relative angle between the miner and conveyor, we are steering the miner, with the conveyor as the mass for the actuators to push against.

Claims 1, 17, and 21-27 are independent claims. Applicant's Attorney states that independent claim 1, 17, 21-22 and 24-25 (and their dependent claims 2-16 and 18-20) specifically require this change in directional heading of the miner. Applicant's Attorney notes that claims 23 and 26-27, as filed, do not state that it is the directional heading of the miner that

is being changed by changing the connection angle between the miner and conveyor. Applicant's Attorney herein amends claims 23 and 26-27 to state that the directional heading of the miner is changed by changing the connection angle between the miner and conveyor. With emphasis added by underlining, Applicant's Attorney points to the following language in each of the independent claims –

Claim 1 for a mining apparatus – last clause – “whereby said first and second actuators adjust a connection angle between said miner and said conveyor unit either side of parallel to determine a directional heading for said miner.”

Claim 17 for a mining apparatus – end of claim – “whereby said connection angle between said miner and said conveyor unit is adjusted to determine a directional heading for movement of said miner.”

Claim 21 for a guidance control apparatus for a mining apparatus – last clause – “at least one actuator responsive to said controller for adjusting a directional heading for said miner.”

Claim 22 for a guidance control apparatus for a mining apparatus – last clause – a first actuator carried by one of said miner, conveyor unit and steering unit, said first actuator being responsive to said controller to adjust a connection angle between said miner and said conveyor unit for adjusting a directional heading of said miner.”

Claim 23 for a method of guiding a mining apparatus – next to last clause – “exerting a force between said miner and said at least one conveyor unit whereby a connection angle between said miner and said conveyor unit is changed, determining a directional heading of said miner;....”

Claim 24 for a method of guiding a mining apparatus – next to last clause – “adjusting a steering mechanism engaged between said miner and said conveyor unit to bring said miner to said desired directional heading;....”

Claim 25 for a method of guiding a mining apparatus – first step – “adjusting a heading for movement of said miner by controlling a connection angle between said miner and said conveyor unit.”

Claim 26 for a mining apparatus – end of claim “whereby said actuator adjusts a connection angle between said miner and said conveyor unit to determine a directional heading for said miner.”

Claim 27 for a method of guiding a mining apparatus – last clause – “determining a directional heading of the miner by controlling a connection angle between the miner and the conveyor unit by exerting a steering force between the miner and the conveyor unit.”

At column 3, lines 30-35, Bessinger teaches: “The conveyor is steered and kept in alignment with the miner by monitoring through strain gages 26, the strains at the mounting points of two chains 28, which couple the conveyor to the miner, and adjusting the steering head 30 of the conveyor 12 to maintain the strains at the two points at near equal levels.” The conveyor is self-advancing having its own steering head 30 (Fig 2) and simply follows along behind the mining machine 10 based on the differences in the strains sensed between the two chains 28 interconnecting the mining machine 10 and conveyor 12.

Doerr teaches steering system for an “articulated” type tramsing conveyor 10 to follow between overhead rails or tracks 31/32. As is taught at column 5, lines 1-30, an arm 44 senses its orientation relative to the tracks. If that orientation sensed is such that the conveyor is not located centrally between the tracks, a steering apparatus 50 will cause the conveyor to steer left or right as appropriate.

Applicant’s Attorney states that Bessinger does not disclose the invention substantially as claimed, where it is the directional heading of the miner that is being changed. The chains 28 of Bessinger are not provided to interconnect the miner and conveyor, so there is no “connection angle” therebetween. The chains 28 are simply there to provide a strain gage reading so that the separately driven conveyor follows along behind the separately driven miner. Even with Doerr, the arm 44 is sensing whether or not the conveyor is properly following along relative to the location of tracks 31/32. The combination of Bessinger and Doerr do not disclose determining the directional heading of a miner by using actuators to adjust a connection angle between the miner and a conveyor unit, as in the present invention. Therefore, Applicant’s Attorney respectfully submits that Bessinger alone does not anticipate and Bessinger in view of Doerr does

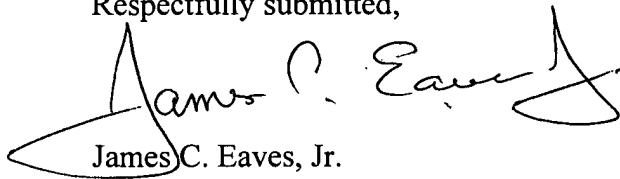
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not obviate Applicant's invention and respectfully requests that the Examiner withdraw the rejections of claims 1-27.

Conclusion

Applicant's Attorney respectfully submits that, with entry of this amendment, claims 1-27 are allowable. As such, it is respectfully requested that the Examiner issue a notice of allowance. However, please call Applicant's undersigned Attorney at (502) 587-3724 should Examiner have any questions or unresolved issues with this application.

Respectfully submitted,



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